REMARKS

In the Office Action, the Examiner[1] rejected claims 1-15 and 18-31 under 35 U.S.C. § 103(a) as being unpatentable over Brady et al. (U.S. Patent No. 6,442,374 B1, "*Brady*") in view of Adar (U.S. Patent No. 5,774,017, "*Adar*"). The Examiner indicated that claims 16 and 17 are drawn to allowable material and would be allowed if rewritten in independent form. Claims 1-36 are pending with claims 32-36 withdrawn from consideration and claims 1-31 under examination.

Applicants have amended claims 1, 20, 29, and 31, to more appropriately define their invention. Support for the claim amendments can be found, for example, at page 10, lines 7-13, of Applicants' specification. In particular, Applicants have amended claim 1 to recite "wherein the DC power control signal controls differential pair output signals provided by the mixer." Claims 20, 29, and 31 have been amended to recite a similar limitation.

Applicants respectfully traverse the rejection of claim 1 under 35 U.S.C. § 103(a) over *Brady* in view of *Adar.* To establish a *prima facie* case of obviousness, three basic criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine references. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all of the claim elements. *See* M.P.E.P. § 2143. Moreover, the requisite teaching or suggestion to make the claimed combination and

[1] The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. *See In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). *See* M.P.E.P. § 706.02(j). Neither *Brady* nor *Adar* teach or suggest each and every element recited in claim 1.

Claim 1 recites an upconverter including "an amplifier coupled to the mixer . . . having a first terminal for receiving the input signal . . . and a second terminal for receiving a *DC power control signal* . . . wherein *the DC power control signal controls differential pair output signals provided by the mixer*" (emphasis added).

As noted in the Request for Reconsideration filed September 21, 2005, *Brady* disclosed at column 8, lines 36-44 and lines 41-43, a description of element 312 (LO INPUT) in Fig. 3. Element 312 is a "local oscillator input," i.e., *an oscillator signal*, which by definition *cannot constitute a DC signal*. *Id.* Thus, Brady necessarily fails to teach or suggest "a second terminal for receiving a *DC power control signal* . . . wherein *the DC power control signal controls differential pair output signals provided by the mixer*" (emphasis added) as recited in claim 1. The Examiner appears to acknowledge this deficiency of *Brady*, at page 3 of the Office Action, and instead appears to rely on *Adar* to teach a "technique for having the amplifier of receiving RF input and also DC power control signal from a power control circuit."

Adar teaches, for example, at col. 8, lines 53-62, amplifying apparatus 150 which receives from bias control circuit 184 that is used to "selectively bias the amplifying stage to operate in a desired mode." These different operation modes are required by *Adar* because the reference is drawn to an amplifier for "different wireless

systems" that require different amplifier biases to operate in different modes. Col. 4, lines 59-65.

To the extent that the bias control circuit disclosed by *Adar* corresponds to the claimed "DC power control signal," the cited reference fails to teach or suggest "a second terminal for receiving a *DC power control signal* . . . wherein *the DC power control signal controls differential pair output signals provided by the mixer*," (emphasis added) as recited in claim 1, and thus fails to cure the deficiencies of *Brady*. Accordingly, no prima facie case of obviousness is established with respect to claim 1 based on *Brady* and *Adar*.

Independent claims 20, 29, and 31, though of different scope, recite similar limitations to those recited in claim 1, and thus claims 20, 29, and 31 are allowable at least due to the above discussed reasons with respect to claim 1. Furthermore, claims 2-6, 21-28, and 30 respectively depend from independent claims 1, 20, and 29, and these dependent claims are allowable at least due to their dependence.

Applicants respectfully traverse the rejection of independent claim 7 because *Brady* and *Adar* fail to teach or suggest each and every element recited in claim 7. Claim 7 recites "an amplifier, coupled to the mixer, *including matched first and second MESFETs*, each MESFET having source, gate, and drain terminals, wherein the gate of the first MESFET receives the input signal, and the *gate of the second MESFET* is coupled to *a DC control voltage capable of turning off the first and second MESFETs*" (emphasis added).

As discussed above, the Examiner apparently acknowledges that *Brady* fails to teach or suggest "a DC control voltage," and thus necessarily fails to disclose "an

amplifier, coupled to the mixer, including matched first and second MESFETs, each MESFET having source, gate, and drain terminals, wherein the gate of the first MESFET receives the input signal, and *the gate of the second MESFET is coupled to a DC control voltage capable of turning off the first and second MESFETs,*" (emphasis added) as recited in claim 7.

Adar teaches, for example, at col. 11, lines 40-55, and the description of Figs. 6A and 6B therein, first amplifying stage 242. First amplifying stage 242 consists of *a single FET* that is connected to dc power supply $+V_{DD}$ through impedence networks 254 and 256 via switch 255. *Id.* The single FET of first amplifying stage 242 is connected *via the drain to dc power supply* $+V_{DD}$. *Id.* However, to the extent that the first amplifying stage 242 corresponds to the claimed "amplifier" recited in claim 7, *Adar* fails to teach or suggest the claimed "amplifier, coupled to the mixer, including *matched first and second MESFETs* . . . the *gate of the second MESFET* is coupled to *a DC control voltage capable of turning off the first and second MESFETs*," and thus fails to cure the deficiencies of *Brady* in this regard.

Brady and *Adar*, either alone or in combination, fail to teach or suggest each and every element recited in claim 7, and thus no *prima facie* case of obviousness is established based on the cited prior art. Claim 7 is allowable for at least this reason. Claims 8-12 depend from independent claim 7 and are allowable for at least the same reason as claim 7.

Applicants respectfully traverse the rejection of independent claim 13. Claim 13 recites "a filter for rejecting noise signals having a same frequency as the image signal of the input signal."

The Examiner contends, at page 4 of the Office Action, that the "entire references of Brady and Adar" teach or suggest the features of claim 13, thus including a "filter for rejecting noise signals having a same frequency as the image signal of the input signal." The Examiner further contends that "the claims . . . with known components . . . are rejected for the reasons given in the scope of claims 1-6." *Id.* Applicants respectfully disagree.

Brady teaches, for example, at column 8, lines 44-50, a transmitter that produces "an output which corresponds to both the sum and the differences of frequencies f_1 and f_2 . . . with the sum . . . being filtered." *Adar* teaches, for example, at col. 11, lines 9-22, using a "low-pass filter/impedence network 230 and a high-pass filter/impedence network 166 [ ] connected to the output of amplifying stage 152," to filter either an 800 MHz signal or 1900 MHz signal. However, neither the teachings of *Brady* nor *Adar* suggest a "filter for rejecting noise signals <u>*having a same frequency*</u> as the image signal of the input signal," (emphasis added) as recited in claim 13. Thus, no *prima facie* case of obviousness is established based on *Brady* or *Adar*, because the references, either alone or in combination, fail to teach or suggest each and every element recited in claim 13. Accordingly, Applicants respectfully submit that claim 13 is allowable for at least this reason. Applicants further submit that claims 14, 15, 18, and 19 are allowable at least due to their dependence from claim 13.

In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 1-15 and 18-31 are allowable, in addition to claims 16 and 17 already indicated by the Examiner as containing allowable subject matter. Applicants therefore

respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103(a), and allow all pending claims 1-31.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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